



Parshall flume dimensions. (Figure reproduced from ASTM D1941.)

Dimensions in mm (refer to Figure 1). (The throat width in this table was converted to SI units, rounded to the nearest 1/10th mm, from ASTM D1941, Table 2.)

| Widths | | | Axial lengths | | | Wall depth | Vertical distance below crest | | Converging wall length | Gage point | |
|--------|---------------|-----------------|--------------------|----------------|--------------------|--------------------|-------------------------------|--------------------|------------------------|------------|------|
| Throat | Up-stream end | Down-stream end | Converging section | Throat section | Divergence section | Converging section | Dip at throat | Lower end of flume | | | |
| W_T | W_C | W_D | L_C | L_T | L_D | D | N | K | C | H_C | |
| 1" | 25.4 | 167 | 93 | 357 | 76 | 204 | 152 to 229 | 29 | 19 | 363 | 242 |
| 2" | 50.8 | 213 | 135 | 405 | 114 | 253 | 152 to 252 | 43 | 22 | 415 | 276 |
| 3" | 76.2 | 259 | 178 | 457 | 152 | 305 | 305 to 610 | 57 | 25 | 466 | 311 |
| 6" | 152.4 | 396 | 393 | 610 | 305 | 610 | 610 | 114 | 76 | 719 | 480 |
| 9" | 228.6 | 573 | 381 | 863 | 305 | 457 | 762 | 114 | 76 | 880 | 585 |
| 1' | 304.8 | 844 | 610 | 1344 | 610 | 914 | 914 | 229 | 76 | 1372 | 914 |
| 1'6" | 457.2 | 1024 | 762 | 1420 | 610 | 914 | 914 | 229 | 76 | 1448 | 965 |
| 2' | 609.6 | 1207 | 914 | 1497 | 610 | 914 | 914 | 229 | 76 | 1524 | 1016 |
| 3' | 914.4 | 1573 | 1219 | 1646 | 610 | 914 | 914 | 229 | 76 | 1676 | 1118 |
| 4' | 1219.2 | 1935 | 1524 | 1792 | 610 | 914 | 914 | 229 | 76 | 1829 | 1219 |
| 5' | 1524.0 | 2301 | 1829 | 1945 | 610 | 914 | 914 | 229 | 76 | 1981 | 1321 |

Recommended minimum and maximum flows in free flow conditions. (From ASTM D1941, Tables 2 and 3.) (Note that the head is measured in cm as prescribed in ASTM D1941.)

| Throat | C_K | | n | Minimum discharge | | | | Maximum discharge | | | | |
|--------|--------|-------|--------|-------------------|-----------|--------------------|-------------------------|-------------------|-----------|--------------------|-------------------|------|
| | W_T | fps | | SI | Depth (m) | ft ³ /s | m ³ /s x1000 | l/s | Depth (m) | ft ³ /s | m ³ /s | l/s |
| 1" | 25.4 | 0.338 | 0.0479 | 1.55 | 0.020 | 0.01 | 0.28 | 0.28 | 0.180 | 0.2 | 0.0057 | 5.7 |
| 2" | 50.8 | 0.676 | 0.0959 | 1.55 | 0.020 | 0.02 | 0.57 | 0.57 | 0.180 | 0.3 | 0.014 | 14 |
| 3" | 76.2 | 0.992 | 0.141 | 1.55 | 0.032 | 0.03 | 0.85 | 0.85 | 0.464 | 1.1 | 0.031 | 31 |
| 6" | 152.4 | 2.06 | 0.264 | 1.58 | 0.029 | 0.05 | 1.42 | 1.42 | 0.457 | 3.9 | 0.110 | 110 |
| 9" | 228.6 | 3.07 | 0.393 | 1.53 | 0.030 | 0.09 | 2.55 | 2.55 | 0.611 | 8.9 | 0.252 | 250 |
| 1' | 304.8 | 4 | 0.624 | 1.522 | 0.029 | 0.11 | 3.11 | 3.11 | 0.761 | 16.1 | 0.456 | 460 |
| 1'6" | 457.2 | 6 | 0.887 | 1.538 | 0.028 | 0.15 | 4.25 | 4.25 | 0.763 | 24.6 | 0.697 | 690 |
| 2' | 609.6 | 8 | 1.135 | 1.55 | 0.046 | 0.42 | 11.89 | 11.89 | 0.834 | 38.1 | 1.079 | 930 |
| 3' | 914.4 | 12 | 1.612 | 1.566 | 0.045 | 0.61 | 17.27 | 17.27 | 0.762 | 50.4 | 1.427 | 1420 |
| 4' | 1219.2 | 16 | 2.062 | 1.578 | 0.062 | 1.3 | 36.81 | 36.81 | 0.762 | 67.9 | 1.923 | 1920 |
| 5' | 1524.0 | 20 | 2.5 | 1.587 | 0.062 | 1.6 | 45.3 | 45.3 | 0.762 | 85.6 | 2.424 | 2420 |